



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
(Case No. 97-033-U1)

In the Application of:	)	
	)	Examiner: TBA
Thurkauf, et al.	)	
	)	
Serial No.: 10/667,821	)	Group Art Unit:
	)	
Filed: September 22, 2003	)	
	)	Confirmation No.:
For: 1-Phenyl-4 Benzylpiperazines: Dopamine	)	
Receptor Subtype Specific Ligands	)	

**TRANSMITTAL LETTER**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In regard to the above identified application,

1. We are transmitting herewith the attached:
  - a) Information Disclosure Statement;
  - b) PTO Form 1449; and
  - c) Return postcard.
2. With respect to fees:
  - a) No fee is due.
  - b) Please charge any underpayment or credit any overpayment our Deposit Account, No. 13-2490.
3. CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on December 29, 2003.

Respectfully submitted,

*Raafat M. Shaltout*

Raafat M. Shaltout  
Registration No. 45,092



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**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. Section 1.97 - 1.99, the Applicant wishes to make the following references of record in the above-identified application. This Information Disclosure Statement is in compliance with the continuing duty of candor as set forth in 37 C.F.R. Section 1.56. Pursuant to 37 CFR 1.98(d), copies of the references cited below can be found in parent application serial number 09/736,566 (now U.S. Patent 6,426,347). U.S. Patent 5,607,946 (reference 3) was cited by the Office in parent application serial number 10/186,235 (now U.S. Patent 6,656,943), and a copy of this reference can be found therein. These references are also listed on the enclosed PTO Form 1449.

These documents contain information which the Examiner may consider to be important in deciding whether to allow the present application to issue as a patent. This statement is not a representation that the listed references have effective dates early enough to be "prior art" within the meaning of 35 U.S.C. Section 102 or Section 103.

**U.S. Patent Documents:**

1. U.S. Patent No. 3,299,067 Issued: January 17, 1967.

2. U.S. Patent No. 4,260,610 Issued: April 7, 1981.
3. U.S. Patent No. 5,607,946 Issued March 4, 1997.

**Foreign Documents:**

4. European Patent No. EP 574271 Issued: December 15, 1993.
5. International Published Application No. WO 93/04684 Published: March 18, 1993.
6. International Published Application No. WO 93/04682 Published: March 18, 1993.
7. International Published Application No. WO 94/06768 Published: March 31, 1994.
8. International Published Application No. WO 94/20471 Published: September 15, 1994.
9. International Published Application No. WO 97/41108 Published: November 6, 1997.
10. Hungarian Patent No. 211 523 A9, published June 22, 1995.

**Other Documents:**

11. Reitz, et al., (1994), J. Med. Chem. 37: pp.1060-1062.
12. Schmidt and Martin, (1965), Toxicol. Appl. Pharmacol., 7: pp. 257-267.
13. Meyers, et al.,(1964), J. Org. Chem., 29: pp. 1435-1438.
14. Sarati, S. et al., (1991), Psychopharmacology, "Kinetics of PIREBEDIL and effects on dopamine metabolism: hepatic biotransformation is not a determinant of its dopaminergic action in rats" 105: pp. 541-545, XP002065935.
15. Boyfield, I. et al., (1996), Bioorg. & Med. Chem. Lett., "N-(Substituted-Phenyl)-Piperazines: Antagonists with high Binding and Functional Selectivity for Dopamine D4 Receptors" 6:(11), pp. 1227-1232.
16. Reitz, A.B. et al., (1995), J. Med. Chem., "N-Aryl-N'-Benzylpiperazines as Potential Antipsychotic Agents", 38:(21) pp. 4211-4215.
17. Handley, M.S., (1996), Medicinal Research Reviews, "D4 Receptors and Their Antagonists", 16:(6) pp. 507-526.
18. Mach, R.H. et al., (1993), Nucl. Med. Biol., "The use of <sup>18</sup>F-4-Fluorobenzyl Iodide

(FBI) in PET Radiotracer Synthesis: Model Alkylation Studies and Its Application in the Design of Dopamine D1 and D2 Receptor-based Imaging Agents", 20:(6) pp. 777-794. XP002065565.

19. Prasad R. N. et al., (1968), Journal of Medicinal Chemistry, "Potential Antihypertensive Agents. II. Unsymmetrically 1,4-Disubstituted Piperazines. I" 11:(6) pp. 1144-1150. XP002036253.
20. Chemical Abstracts, Vol. 59, No. 8732b.
21. J. Med. Chem. 1992, 35, 2369-2374.
22. Morren, H. et al., "New Derivatives, N,N'-disubstituted for piperazine, with neurotropic properties", Industrie Chimique Beige- No. 2-1963, 123-134. (with translation)

In accordance with MPEP Sections 609 and 707.05(b), it is requested that each document cited (including any cited in applicant's specification which is not repeated on the attached Form PTO-1449) be given thorough consideration and that it be cited of record in the prosecution history of the present application by initialing on Form PTO-1449. Such initialing is requested even if the Examiner does not consider a cited document to be sufficiently pertinent to use in a rejection, or otherwise does not consider it to be prior art for any reason, or even if the Examiner does not believe that the guidelines for citation have been fully complied with. This is requested so that each document becomes listed on the face of the patent issuing on the present application.

The present Disclosure Statement is being submitted in compliance with 37 CFR 1.56 insofar as an Examiner might consider any of the cited documents important in deciding whether to allow the application to issue as a patent, but the citation of each document is not to be construed as an admission that such document is necessarily relevant or prior art. No representation is intended that the cited documents represent the results of a complete search, and it is anticipated that the Examiner, in the normal course of examination, will make an independent search and will determine the best prior art consistent with 37 CFR 1.104(a) and 1.106(b) and, in the course of each search, will review

for relevance every document cited on the attached form even if not initialed.

Early and favorable consideration is earnestly solicited.

Respectfully submitted,  
**McDonnell Boehnen Hulbert & Berghoff**

Date: 12/29/03

By: Raafat Shaltout  
Raafat Shaltout  
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Form PTO-1449

U.S. Department of Commerce  
Patent and Trademark Office

Atty. Docket No.

Serial No.

97-033-U1

10/667,821

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

Applicant: Thurkauf et al.

Filing Date: September 22, 2003

Group: TBD

## U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date
	1.	3,299,067	1-17-67				
	2.	4,260,610	4-7-81				
	3.	5,607,946	3/1997				

## FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation Yes No
	4.	EP 574271	12-15-93	Europe			
	5.	WO 93/04684	3-18-93	PCT			
	6.	WO 93/04682	3-18-93	PCT			
	7.	WO 94/06768	3-31-94	PCT			
	8.	WO 94/20471	9-15-94	PCT			
	9.	WO 97/41108	11-6-97	PCT			
	10	HU 211 523 A9	6-22-95	Hungary			X

## OTHER DOCUMENTS - Including Author, Title, Date, Pertinent Pages, Etc.

	11	Reitz, et al., J. Med. Chem. 37, 1060-1062, 1994.
	12.	Schmidt and Martin, (1965), Toxicol. Appl. Pharmacol., 7: pp. 257-267.
	13.	Meyers, et al., (1964), J. Org. Chem., 29: pp. 1435-1438.
	14.	Sarati, S. et al., (1991), Psychopharmacology, "Kinetics of PIREBEDIL and effects on dopamine metabolism: hepatic biotransformation is not a determinant of its dopaminergic action in rats" 105: pp. 541-545, XP002065935.
	15.	Boyfield, I. et al., (1996), Bioorg. & Med. Chem. Lett., "N-(Substituted-Phenyl)-Piperazines: Antagonists with high Binding and Functional Selectivity for Dopamine D4 Receptors" 6:(11), pp. 1227-1232.
	16.	Reitz, A.B. et al., (1995), J. Med. Chem., "N-Aryl-N'-Benzylpiperazines as Potential Antipsychotic Agents", 38:(21) pp. 4211-4215.
	17.	Handley, M.S., (1996), Medicinal Research Reviews, "D4 Receptors and Their Antagonists", 16:(6) pp.507-526.
	18.	Mach, R.H. et al., (1993), Nucl. Med. Biol., "The use of <sup>18</sup> F-4-Fluorobenzyl Iodide (FBI) in PET Radiotracer Synthesis: Model Alkylation Studies and Its Application in the Design of Dopamine D1 and D2 Receptor-based Imaging Agents", 20:(6) pp. 777-794. XP002065565.
	19.	Prasad R. N. et al., (1968), Journal of Medicinal Chemistry, "Potential Antihypertensive Agents. II. Unsymmetrically 1,4-Disubstituted Piperazines. I" 11:(6) pp. 1144-1150. XP002036253.
	20.	Chemical Abstracts, Vol. 59, No. 8732b.
	21.	J. Med. Chem. 1992, 35, 2369-2374.
	22	Morren, H. et al., "New Derivatives, N,N'-disubstituted for piperazine, with neurotropic properties", Industrie Chimique Beige- No. 2-1963, 123-134. (with translation)

Examiner

Date Considered

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with any communication.